

unburied cable is vulnerable to being snagged by fishing vessels. Several kinks in the ATOC cable were found in an area subjected to intense trawling activity. The first break in this cable's history was attributed to trawling, and seafloor tracks similar to trawl marks were observed in that area during the survey. The cable was broken a second time and has not transmitted data since September 2002. The exact location of the break and its cause were not found during the survey.

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cont.

This research report is not listed in the References section of the DEIS. A copy of the write up is attached (Exhibit 1). Instead, the DEIS makes summary reference to an assessment prepared for an entity called Global West Network, using a so-called cable fault model. That model is then said to be the basis for concluding that the risk of a fishing snag is "exceedingly low" in this case. DEIS at 4.2-12. However, MBARI's own research indicates that at least two snags, and possibly one break, caused by trawling has affected the ATOC cable in only 7 years. No analysis of the adequacy of the Global West Network model, particularly in light of the ATOC factual information, is provided. The reader is only given a summary conclusion. Such simplistic analysis is not likely to survive a court challenge, under either State or Federal law, and should never have been accepted as part of this DEIS. For certain, State and Federal agencies should not rely on it for their decision-making.

The issue of the snagging of the exposed cable by fishing gear has significant environmental impacts. Snagged gear may also pose entanglement problems for marine mammals that frequent the area. The need to regularly engage in intrusive industrial activity to repair the cable every few years (every two years if the ATOC experience in very similar circumstances within the Sanctuary has meaning) will cause new environmental disruption each time. Yet the DEIS contains no specific information about how many vessels use the area where the cable will be located, what types of vessels are active or what gear they use, the projected fishing activity over the life of the cable, and other obviously relevant data and information.

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Given the general experience of trawling impacts on submarine cables, as reflected in a multitude of reference materials for all kinds of cables (commercial, military, research), and the particular experience with the ATOC cable, it would be arbitrary and capricious for any State or Federal agency to rely upon MBARI's assessment of the risk of such adverse events as set forth in the DEIS. In fact, the risk of a trawl vessel snagging on the MARS cable, given its preferred route, is significant.<sup>11</sup> If the ATOC cable experienced one break, and several kinks, in less than 7 years due to trawling, then it is quite likely that the proposed MARS cable, which was routed through known fishing grounds rather than away from them, will be snagged and perhaps broken every year or so. As a consequence, further environmental disturbance will be required to repair the cable and liability disputes will surely result.

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The DEIS also fails to apply the precautionary principle to the various ecological uncertainties obvious here. This principle should be well known to MBARI but gets no treatment at all in the DEIS. Therefore, the failure to analyze the risk associated with fishing gear conflicts undercuts all the conclusions in the DEIS as to the degree of risk and the

<sup>11</sup> ACSF prefers Alternative 3, which was rejected prior to issuance of the DEIS, as the best route for the cable, if one were built.

significance of the related environmental impact. That a research institution of MBARI's purported prominence would fail to prepare an adequate assessment of a project for which MBARI is responsible for obtaining permits is quite troubling.

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cont.

### ***MBARI Has a Conflict of Interest***

ACSF believes that MBARI has a conflict of interest with respect to analysis of the impacts of fishing in this case and in seeking to enter into what is referred to as a Fisherman's Agreement, as it is called in the DEIS (page ES-7). Although the views of ACSF have been known for some time, MBARI never made a proposal in writing that could be considered by fishing industry representatives until just last week. The essential issues in any such agreement can be easily identified and the need for such an agreement has been well recognized by the organizers of NEPTUNE, as evidenced by the Holman Paper. But, as of this date, nothing has been agreed to. Moreover, the DEIS does not include information gathered from the fishermen themselves. Overall, communications between MBARI, which has the affirmative duty of working with the fishermen in leading the effort for state and federal permits, and ACSF have not been very successful.

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The source of the problems is clear. MBARI is affiliated with the Monterey Aquarium. The director of MBARI is Dr. Marcia McNutt, who also sits on the Board of Directors of the Aquarium. In fact, several individuals are members of both entities' boards of directors. Thus, the policies pursued by each are essentially the same. Each is funded by the David and Lucille Packard Foundation, a private trust with its own self-directed policies and goals. None of these institutions are considered to be public, although it appears that federal funds are provided to conduct some of the programs of MBARI. Because it is a private institution, MBARI does not function with the same concerns and policy directives that apply to, say, the Monterey Bay National Marine Sanctuary or a scientific laboratory at the University of California.

The conflict arises because the Monterey Aquarium has been leading a major campaign for a consumer boycott of the very fishing activity that would be the subject of a Fisherman's Agreement for the MARS Project. The Aquarium has a Seafood Watch Program which is carried out, in part, by a consumer brochure distributed by the Aquarium and available on its website that tells the consumer what seafood should be purchased and what seafood to be avoided. This Seafood Guide currently recommends against any purchase of Pacific (trawl-caught) rockfish. The label for this type of fish is red and means "Avoid." Yet all trawl fishing for rockfish on the West Coast must be conducted in accordance with strict State and Federal fishery management regulations. These regulations include no-fishing zones, gear restrictions, quotas, and seasonal closures.

Fishermen do not make the regulations; duly authorized government authorities do. Fishermen can only comply, under threat of monetary and criminal penalties, and gear and vessel forfeiture. Any Pacific rockfish that would be caught, therefore, would be considered legal and any fisherman would be authorized to sell the fish. The Aquarium's Seafood Watch Guide campaign, nonetheless, calls upon the public to boycott legally caught Pacific rockfish, the result of which is to undercut any law-abiding fisherman who seeks only to make a living for his or her family.

The leadership of MBARI has, presumably, adopted and supports the boycott policy and is aggressively pursuing it. Notwithstanding the fact that government agencies are also aggressively regulating the Pacific rockfish fishery, the Aquarium's boycott policies remain in place. In effect, the Aquarium is encouraging the public to have no faith in government fishery management policies and programs and to punish law-abiding fishermen. The Aquarium is seeking to undercut the business of lawfully trawling for Pacific rockfish, which will result in harm to individuals and businesses that rely on fishing for a living. It seems the Aquarium is run by individuals who long ago forget what it takes to put food on the table for a family.

Therefore, it is not terribly surprising that there is no Fisherman's Agreement and that the DEIS is inadequate. But it is surprising that the other academic institutions in the NEPTUNE Project, and the National Science Foundation, have allowed MBARI to take the lead on a well-known and important problem of conflict between the establishment of a new submarine cable network and traditional fishing activity. Perhaps only through the intervention of these other agencies and institutions will something fair be developed for dealing with this conflict. Whatever is negotiated here will set the precedent for locating the NEPTUNE cables in other areas.

#### ***What ACSF Believes Is Necessary***

ACSF is prepared to support the MARS Project if their concerns are addressed in a fair and balanced manner, through a legally enforceable written agreement or pursuant to lease and permit conditions required by State and/or Federal agencies. In order to resolve the conflict that is created by authorizing the otherwise illegal activity of placing a submarine cable in the Monterey Bay Sanctuary, the following issues should be addressed:

1. The conflict of interest posed by MBARI's involvement and the anti-fishing policies of the Aquarium needs to be resolved. MBARI cannot use the MARS Project to force fishing out of Monterey Bay.
2. It should be confirmed that no area where the cable is located is to be off-limits to fishing, but that fishing should be conducted pursuant to lawfully issued State and Federal fishery management regulations. 5-17
3. A far more thorough and intellectually honest assessment of the risk of snagging the cable must be prepared. This should include more detail about the fishing activity now active there, the types of vessels and gear used (and the relative risk of snagging of each), and a projection of fishing activity over the life of the project, applying the precautionary principle. At present, the discussion and analysis in the DEIS is incomplete, conclusory and biased. 5-18
4. A system of regular dialogue should be established to substitute for the unsatisfactory communications between the Applicant and the fishing industry. Other entities responsible for the MARS Project may want to intervene to assure that MBARI is not using the Project to further the Monterey Aquarium's anti-fishing boycotts.

5. Mechanisms should be put in place to provide up-to-date information about the location of the cable and steps to be taken if fishing gear appears to be snagged. More definitive measures should be implemented during the cable-laying operation to prevent conflict.

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6. Fishermen should be compensated for gear lost and lost fishing times, at reasonable amounts, without inordinate delay. Fishermen, or their organizations, should be provided financial assistance and incentive to work continuously on assuring the least risk of harm to the cable.

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7. If fishermen follow appropriate procedures, they should not be liable for damage to the MARS project cable and equipment. In addition, the legal status of the ownership of the cable must be clarified. There should also be a fair mechanism to resolve claims so that any claims can be resolved expeditiously.

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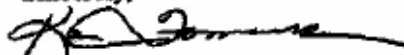
8. Improved discussion of the impact of the cable-laying activities on endangered and threatened species in the Bay is needed, including, but not limited to, whales and salmon. The DEIS should include the same discussion as would be included in a biological assessment or biological opinion under Section 7 of the Endangered Species Act, 16 U.S.C. § 1536. The current discussion is inadequate.

5-22

If these items cannot be negotiated between ACSF and MBARI, they should be included in any lease issued by the State or any permit issued by NOAA or other Federal agency, if approval of the project in its current form is contemplated.

We appreciate the opportunity to present our views to you.

Sincerely,



Kathy Fosmark

Monterey, CA 93940

cc: Governor Arnold Schwarzenegger  
 Senator Diane Feinstein  
 Senator Barbara Boxer  
 Congressman Sam Farr  
 National Science Foundation  
 National Oceanic and Atmospheric Administration  
 Congressman Richard Pombo, Chairman, House Resources Committee  
 Senator Ted Stevens, Chairman, Senate Commerce Committee  
 California Coastal Commission

## **Environmental Impact of a Submarine Cable: Case Study of the ATOC/ Pioneer Seamount Cable**

By

Irina Kogan<sup>a,b</sup>, Charles K. Paull<sup>a</sup>, Linda A. Kuhn<sup>a</sup>,

Erica J. Burton<sup>a</sup>, Susan Von Thun<sup>a</sup>, H. Gary Greene<sup>a</sup>, James P. Barry<sup>a</sup>

<sup>a</sup>Monterey Bay Aquarium Research Institute, <sup>b</sup>Monterey Bay National Marine Sanctuary

In recent years there has been a significant upsurge of activity and interest in installing offshore cables for both commercial (e.g. telecommunications) and scientific purposes. Cables that are only one-to-two inches in diameter are able to transmit power and large amounts of data over long distances. The telecommunications industry is in the process of building an extensive undersea global network to connect large urban centers on different continents. Scientists also want to utilize the power and data transmission capability of underwater cables but for the purpose of studying coastal and marine environments. Whereas the traditional mode of marine data collection consists of sporadic shipboard surveys, cables allow scientists to set up instruments and experiments that collect and transmit data continuously. Constant monitoring promises to improve our understanding of the ocean and could lead to major new discoveries regarding marine systems.

Due to the high degree of interest in installing cables in marine environments, there is also a need to better understand the environmental impacts of cables on the seabed. For this purpose, NOAA- Oceanic and Atmospheric Research, NOAA- National Ocean Service, and the Monterey Bay Aquarium Research Institute (MBARI) partnered to study the environmental impacts of the ATOC (Acoustic Thermometry of Ocean Climate)/ Pioneer Seamount cable.

The 95 km ATOC/Pioneer Seamount cable lies mostly within the Monterey Bay National Marine Sanctuary off Half Moon Bay, CA. The cable was installed in 1995 by the ATOC research consortia and was initially used to connect an acoustic projector and hydrophone on Pioneer Seamount to shore for performing acoustic tomography in the North Pacific. The cable was laid directly on the seafloor, not buried. In 2001, OAR took over responsibility for the cable and used it to monitor ocean sounds near Pioneer Seamount. The permit issued by the National Marine Sanctuary Program required a survey of the cable before December 2003. In order to scientifically investigate the environmental impacts of the cable and address the National Marine Sanctuary Program permit requirements, MBARI and NOAA scientists collected data from selected sites during three research cruises in 2002 and 2003, using MBARI's vessels and remotely operated vehicles (ROVs). The survey objectives were to analyze the effect of the cable on the benthic organisms and habitat, as well as to document the state of the cable.

The survey team analyzed cable and control sites over 15 kilometers of seafloor. They concluded that the main biological difference was the greater number of organisms attached or adjacent to the cable relative to control sections of the seafloor. In soft sediment areas, the cable stands out as a hard surface. Organisms such as anemones, which are known to colonize hard substrates, were more abundant on the cable in transects at most soft sediment locations. Data extrapolation suggests that more than

### **EXHIBIT 1**

50,000 anemones may live in the modified habitat created by the cable. Other organisms such as echinoderms and sponges were also seen living on the cable. Higher numbers of flatfish and rockfish were also found near the cable at some sites. More shell hash and drift kelp were also found near the cable at several sites, perhaps caused by cable-induced hydrodynamic perturbations that concentrate shell hash and minor amounts of drift kelp near the cable. Analysis of sediment cores taken adjacent to the cable and 100 meters away from it showed that the cable has had no apparent effect on organisms that live within the sediment. The team extrapolated that a total of approximately 500,000 organisms may be concentrated near or on the 95-kilometer cable.

Although the cable was installed on the seafloor unburied, the survey team estimates that approximately 50 percent of the cable has become buried over time. The buried sections lie within continental shelf sediments, in water depths less than 120 meters, whereas much of the cable remains exposed on the seafloor at deeper depths and on rocky terrain. The depth of burial is relatively shallow (less than 10 centimeters) and the cable is likely to become exposed in places due to shifting substrate. A notable discovery was that the cable was damaged in a rocky, nearshore, high-wave-energy area where frayed cable, unraveled cable armor, and vertical grooves in the rock apparently cut by the cable were found. The periodically intense wave energy in that region appears to be strong enough to shift the cable's position, abrading both the cable and the rocks. Neither the rocks nor the cable were damaged in the rocky environment on Pioneer Seamount.

Cable suspensions and loops are of concern due to potential entanglements, such as with fishing gear and marine mammals. No such entanglements were found although suspensions were seen throughout the survey in areas of irregular topography. Most of the suspensions were short (about 10 centimeters above the seafloor). However, longer suspensions (up to 40 meters long and 2 meters high) were seen in rocky regions. Multiple loops of slack cable, added during a cable repair operation, were found lying flat on the seafloor.

Fishing activity is the main cause of submarine cable breaks worldwide as unburied cable is vulnerable to being snagged by fishing trawls. Several sharp kinks in the ATOC cable were found in an area subjected to intense trawling activity. The first break in this cable's history was attributed to trawling, and seafloor tracks similar to trawl marks were observed in that area during this survey. The cable was broken a second time and has not transmitted data since September 2002. The exact location of the break and its cause were not found during this survey.

Results and observations from this survey will aid National Marine Sanctuary Program decision makers regarding the ATOC Pioneer Seamount cable's future and provide scientific data for shaping cable policy.

#### EXHIBIT 1